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Docket No.: 1254-0257PUS1  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Naoki OKAMOTO et al.

Application No.: Not Yet Assigned

Confirmation No.: N/A

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Art Unit: N/A

For: RADIO COMMUNICATION SYSTEM

Examiner: Not Yet Assigned

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The PTO is requested to use the amended sheets/claims attached hereto (which correspond to Article 19 amendments or to claims attached to the International Preliminary Examination Report (Article 34)) during prosecution of the above-identified national phase PCT application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: September 9, 2004

CG/smt

Respectfully submitted,

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## CLAIMS

1. A TDMA radio communication system that uses a multiple subcarrier modulation method and that comprises at least a first and a second radio station, wherein

said first radio station carries out communications by selectively modulating a subcarrier with which a desired transmission rate can be obtained in said second radio station.

2. The TDMA radio communication system according to claim 1, wherein said second radio station comprises:

a power detection means for detecting the received power for each subcarrier and detecting the interference power from another radio station with which said second radio station is communicating; and

a notification means for notifying said first radio station of information regarding said received power and said interference power detected by said detection means, and wherein

said first radio station comprises:

a subcarrier selection means for selecting, based on a reception state and an interference state of each subcarrier that have been returned from said second radio station, a subcarrier with which a desired transmission rate can be achieved in said second radio station; and

a switch means for turning on and off of modulation on a subcarrier basis.

3. The TDMA radio communication system according to claim 2, wherein said power detection means comprises an interference power determination means, a memory means, and a calculation means, wherein said first radio station is grouped with other first radio stations that provide interference in a communication area of said first radio station, wherein said interference

detecting the received power of the current first radio station and the next first radio station base station, and the interference power from another station for each subcarrier corresponds to:

Condition 1: The value of  $C/(N+I)$  of said current first radio station is larger than the value of  $C/(N+I)$  of said next first radio station;

Condition 2: The value of  $C/(N+I)$  of said next first radio station is larger than the value of  $C/(N+I)$  of said current first radio station; or

Condition 3:  $C/(N+I)$  is equal for both said current first radio station and said next first radio station,

said soft handoff function carrying out a handoff control based on the result of the determination, where  $C$  is received power,  $N$  is noise power, and  $I$  is interference power.

8. The TDMA radio communication system according to claim 7, wherein the handoff control based on the result of said determination is carried out mainly by said current first radio station if the sum of the number of subcarriers of said Conditions 1 and 3 is larger than the number of subcarriers of said Condition 2, and mainly by said next first radio station if the sum of subcarriers of said Conditions 2 and 3 is larger than the number of subcarriers of said Condition 1.